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Vol. 1



The

UTAH JUNIPER



U. S. A. C. FORESTRY CLUB

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TABLE OF CONTENTS

An Opportunity in Forestry	Page 5
Forests and Foresters	Page 7
Research Needs In The Intermountain Region	Page 9
Public Relations in Forestry	Page 15
The Lone Trail (<i>Poem</i>)	Page 18
The Forestry and Range Department	Page 19
Editorials	Page 22
To The Utah Juniper (<i>Poem</i>)	Page 23
The Utah Foresters	Page 25
To A Mountain Brook (<i>Poem</i>)	Page 26
Lyle F. Watts Speaks To The Utah Foresters	Page 27
Logging Engineering	Page 28
Utah Foresters Annual Banquet	Page 29
The Rangers Dream (<i>Poem</i>)	Page 33
Eight Miles Or Bust	Page 34
Graduates	Page 35
Shepherders Life (<i>Poem</i>)	Page 36
A Foresters Conflab	Page 38
A New Smoke Chaser	Page 39
The End of Fire Season (<i>a story</i>)	Page 41
Where The Boys Will Work This Summer	Page 43



To Dr. E. G. Peterson, in appreciation of the interest shown and help given to the Department of Forestry, we, the members of the Utah Foresters sincerely dedicate this book.

An Opportunity In Forestry

PRESIDENT E. G. PETERSON

If you examine a map of the inter-mountain country you will find an immense region extending north and south approximately from the Salmon River in northern Idaho to the Colorado River in northern Arizona and east and west from beyond Green River in Wyoming to the western border of Nevada.

This vast area of 185,000,000 acres is about one-tenth of the area of the continental United States. The region contains only about 5,500,000 acres of cultivated land and approximately a similar amount additional admitting of cultivation. The native timber and grazing land contains about 154,000,000 acres leaving about 20,000,000 acres classified as semi-barren or waste land. The 154,000,000 acres which is about 84 per cent of the entire region, is valuable mainly for timber and forage and because of its water storage possibilities.

The Federal Department of Agriculture reports that this region contains about 1,200,000 beef cattle, 6,000,000 sheep with a total value of about \$115,000,000. Approximately \$100,000,000 in addition is invested in live stock properties of one kind or another. It is estimated by the Forest Service that 80 per cent of the feed required by the live stock is furnished by the native range and pasture lands and that the present carrying capacity of the public lands is not more than 50 per cent of what it would carry when first settled. It is a fact that this region is now supporting less stock than it did in 1900 and no increase can be put into effect unless we improve the ranges.

In this region there are approximately 20,000,000 acres supporting a stand of timber amounting to 40,000,000,000 board feet of saw timber, 16,000,000,000 board feet of immature timber and 20,000,000 cords of fuel wood. It is believed by forestry experts that these stands will supply in perpetuity the wood needs of the inter-mountain country with a large surplus to ship out.

The husbanding of our water supply is the most important use to which the forest and range areas can be put. Inasmuch as the whole inter-mountain region is dependent upon irrigation water for the bulk of its agricultural production, the hydro-electric development dependent upon stream flows, and even more important the very existence of hundreds of cities and villages dependent upon water

from the forest water sheds, the careful administration of these valuable lands is a matter of first importance.

The foregoing data, supplied me by our Department of Forestry and by Mr. C. L. Forsling of the Federal Forest Service indicate the major importance of a large corps of carefully trained men to care for this great resource. These data were in mind when the Utah State Agricultural College in 1927 decided, after careful investigation and after a number of conferences with Mr. R. H. Rutledge and members of his staff connected with District Four of the Forest Service, to organize standard work in Forestry. Incidentally one cannot become familiar with the Forest Service, as expressed in District number four, without being deeply impressed with not only the excellent informational organization and the precision with which the organization works, but also what in war time we came to call morale. Those who have risen to important positions in Forestry impress one by virtue of their character as well as their training. They exhibit integrity of the highest order in their relationship to their responsibilities. It is an indication of what should exist in all government work but which lamentably does not.

The College is in the very centre of the inter-mountain area, within easy access of great range areas and vast forests in Idaho, Utah, Arizona and Wyoming. This position of the College and the fact that there is no other Forestry School in the inter-mountain region indicates the unusual opportunity we have to supply the leaders for this region particularly and also, of course, to some extent for other areas.

That the country is conscious of the important relationship of Forestry to national welfare is indicated by the passage within recent years of two important pieces of legislation, the Clark-McNary Act and the McSweeney-McNary Act. The former among other things encourages the development of plantings on farms. The College is already operating under this Act. The McSweeney-McNary Act provides for an elaborate nation-wide program of research in Forestry. Undoubtedly as this work develops it will call for larger and larger members of highly trained specialists. These avenues of education and research and the large problem of administration of our forests, will provide a market for the talents of the better grade of leader.

Professor L. F. Watts who headed the Department during its first two years of existence merits the commendation of the College

(Continued on Page 46.)

Forests and Foresters

By F. S. BAKER

Associate Professor of Forestry, University of California.

Foresters everywhere tend to get into the habit of thinking that forestry flourishes best in those regions where forests are best developed, where unbroken stands of enormous size stretch for miles over the country. This is particularly true of foresters whose work lies in those regions that are not blessed with magnificent tree growth. The inter-mountain region with its scattered forests and small trees, based on Pacific Coast standards, is such a region, and a good many foresters and students of forestry look with longing eyes toward California and the Pacific Northwest where forests are forests, and presumably foresters ought to be all the more real foresters.

Such a viewpoint does not quite fit the facts, however, for forestry has a way of developing in those regions where there is most intensive demand for the products of the forest. Take the situation in California, for example. The white fir problem is always a thorn in the side of the forester. Aspen is a weed and patches of lodgepole pine stand absolutely untouched. In the inter-mountain region in the last decade there has been real forestry practiced in stands of all these species. The Forest Service has even gone so far as to get thinnings made in lodgepole pine and I believe also in white fir. Not so many years ago a working plan was made for a stand of timber near Jarbidge, Nevada, a stand that consists of white fir and limber pine, poor and scrubby even on the standard of the inter-mountain region. And while this was being prepared, what was there covering the magnificent forests of western yellow pine and sugar pine in the Sierra Nevada Mountains of California. Nothing, absolutely nothing. Even within the boundaries of California itself the same sort of trend of development is seen. Perhaps the region having the most thorough set of working plans so far is the Warner Mountain Division of the Modoc National Forest. Except that there are pretty good stands of western yellow pine scattered through these mountains, the situation is almost the same as the Cache National Forest in Utah. The Warner Mountains are a long narrow range in the extreme northeast corner of California with small settlements lying in the valleys on both sides and on the west side lies Goose Lake, partly in California and partly in Oregon, which looks very much indeed like Bear Lake in Utah.

The development of intensive forestry is not so much due to lots of big trees as a scarcity of small ones and workers in the inter-mountain region should feel that they have remarkable opportunities for the development of real intensive forestry, opportunities far better indeed than the average worker on the Pacific Coast.

Not only do foresters in the inter-mountain region have opportunities, but they are also blessed with time to develop them. In California and to a less degree the northwest, and still more the inland empire, the forester is confronted all through the summer season with the specter of fire. Protection is paramount at all times. It demands priority over every other consideration and fire too often requires an enormous outlay in time and energy. So the poor forester on the ground, that is the ranger and supervisor, gets little time to work out schemes of developing a more intensive forest management because no sooner does he start to work than he has to go to a fire. The ranger's work in particular in California is lopsided. Protection absorbs enormous amounts of time. And while protection is perhaps nine-tenths of forestry, we all of us wish that it could be otherwise. It is just as though we, as citizens of the United States, had to spend nine-tenths of our time in going to war to save our national independence. Surely that would be a noble and necessary way of spending our lives, but how far would the United States have advanced in civilization and prosperity if this had been necessary. Much the same thing is true of forestry and a forester can not develop the arts of peace as long as he is fighting fire. The worker in the inter-mountain region, therefore, has exceptional opportunities in becoming a versatile forester, one who knows how to do a large number of things well—how to manage grazing, timber sales, improvement work, etc.—and at the same time get enough experience with fire to make him know a good deal about protection without being a specialist in that line and nothing more.

The forester in the inter-mountain region, in spite of the fact that others may scoff at his asbestos forests and forests of grass and shrubs, is actually in a very enviable position because he is in a region where intensive forestry can be developed and where he has an opportunity to actually put in a lot of time and thought along this line.



Speaking of animals, do you recall the lady who, when informed that the Kangaroo was a native of Australia, remarked. "Ya don't tell me. My sister married one of them."

Research Needs In The Intermountain Region

C. L. FORSLING, Director, Great Basin Experiment Station.

More intelligent methods of procedure are urgently needed for the management and the utilization of the native or so-called "wild" crops of land in the Intermountain Region. Far too little information is available with regard to the conservation of the water supply, the growing and harvesting of timber and forage, and the management of the other biological resources of uncultivated lands. Research is the quickest, cheapest and most thorough method of obtaining this information. The problems are so extensive, complicated, and ever increasing that any attempt to outline an adequate program of research for the region today will doubtless be found inadequate tomorrow. However, that which is set up as a program for the present will serve as a foundation upon which to build in the future.

The Intermountain Region includes all of the State of Utah, most of Nevada, Idaho as far north as the Salmon River, the portion of Wyoming west of the continental divide, and the part of Arizona north of the Grand Canyon. It has an area of about 185 million acres, more or less set apart as a separate region of the west by topographic barriers, transportation facilities, and climatic conditions unlike those in any other area of considerable size in the United States. Its vegetation is characterized by sagebrush with which originally nearly always was associated bunchgrasses, more especially blue bunch wheatgrass and closely related species or varieties of *Agropyron*. Overgrazing has destroyed the bunchgrass except in isolated spots where livestock have not reached. In many places these grasses have been replaced by annual brome grasses. Because of the peculiar climatic and other conditions the biological problems require local study for solution.

Most of the area is now and always will be valuable chiefly for the production of its native resources—water, forage, wood, and wild animal life. It is estimated that about 20,000,000 acres or one-tenth of the area is semi-barren or waste, and of little or no value except for occasional scenic attractions. The production of cultivated crops chiefly irrigated, is confined to about 5,500,000 acres, or about 3 per cent of the gross. The tilled area will probably never be more than doubled on account of low rainfall, limited water supply for irriga-

tion, steep topography or poor soil. The remainder or 85 per cent of the total, produces forage for livestock and wild life, timber and a water supply. Approximately 20,000,000 acres are commercial timber producing lands, about three-fourths of which is also grazed. Grazing is the chief commercial use of the remaining 140 million acres. Probably not more than 22,000,000 acres of the total—the areas of higher elevations—are important for water supply although probably more than half of the 185 million acres must be protected against erosion for the safeguarding of the water resources alone.

In the past these resources have been "mined" rather than husbanded. The bulk of the range lands have been overgrazed and more or less depleted of the more valuable forage plants and the soil has deteriorated through erosion. The destruction of predatory animals and other upsets of nature's balance through human interference, have swung the scales in favor of depredation by rodents. Extensive areas of forest land have been cut over destructively, devastated by fire or depleted by insect infestations. The thinning out of the native plant cover has been followed by disturbances in streamflow and the fouling of streams and irrigation works by silt. These results are due in part to an inadequate land policy, greedy exploitation and public indifference, but in a large measure to the absence of the facts and information essential for intelligent management.

In view of the injury that has occurred to the resources, the research program for the region must deal extensively with the development of methods of rehabilitation. Associated with restoration there needs to be developed methods of sustained maximum yield and efficient utilization of the various resources. Because of the many phases of plant and animal life and economics that are involved the problem is predominantly one of economic biology in the broadest sense.

More specifically the more important problems of watershed conservation needing attention are the influence of different kinds of plant cover, including forest, shrub, and herbaceous vegetation upon streamflow and erosion, methods of control of the plant cover to insure the maximum usable water supply and methods of land management and engineering works to check and control abnormal erosion where it already has started. Within broad limits the effect of plant cover is obvious but definition is not possible. If it were known to what extent the various kinds of plant cover influences runoff, streamflow and erosion, it would then be possible to define in what form it

should be, and under what circumstances it should be utilized. This is a matter which grows in importance with the present erosion situation and the further development of irrigation and hydro-electric power.

In range management the needs to be developed are (1) satisfactory methods of grazing that will restore the native forage plants and will insure the maintenance of the maximum usable grazing capacity in perpetuity in accordance with the requirements of watershed protection, maintenance of soil productivity, timber growth and other resources; (2) forage plants and methods of planting for the restoration of badly denuded areas and the improvement of the native forage stand; (3) more efficient methods of range utilization to prevent the waste of forage and afford the use of the forage in a manner that will result in more economical livestock production and other forms of agriculture; (4) economical methods of obtaining stock water on the range; (5) basically sound and economical methods of rodent control, and (6) a fuller understanding of the insect and disease problem in relation to range forage plants.

The outstanding problems in forest management are (1) more efficient methods of protecting forest values against fire, insects, disease, animals and other destructive agencies; (2) a satisfactory silvicultural technique that will insure the highest yield of timber commensurate with watershed conservation on cut-over lands and lands ready for cutting in each of the important timber types of the region; (3) the working out of suitable methods and limits of planting on lands best adapted to timber growing where unsatisfactory forest growth occurs at the present time, and (4) more efficient methods in the manufacture and utilization of timber products.

In addition to the study and control of wild animal life in relation to the production of water, wood and forage, research is needed for the development of methods of managing game and fur bearing animals and game birds on areas set aside more or less exclusively for this purpose as well as on areas where such resources are produced in association with grazing and timber production. A study of fresh water biology, more especially in relation to fish culture in streams and lakes is needed as a basis for the development of this important recreational resource.

Research is needed in forest and range economics to afford a satisfactory land use policy for the region. The economic facts regarding the forest situation are needed as a part of the basis for a sound forest policy for the entire United States. The problem with

respect to range lands is more local. The relation of range land to agricultural and farm lands is yet to be worked out. The interdependence and proper balance between spring, summer and fall ranges have never been determined. The economics of range livestock production, of which but little study has been made to date, necessarily must take into consideration practically all phases of range management.

Because of the general similarity of problems throughout the region, the best system of attack obviously is on a regional basis with all interested agencies taking a part in a correlated program. Certain phases such as economic studies necessarily would cover the entire region. Other studies such as plant breeding and various physiological, pathological and biological studies could be carried on to best advantage at centralized laboratories and field stations. A large part of the influence, forest management, and range management studies would have to be carried on for each of the more important typical conditions within the region.

There are four or more important sets of climatic and geological conditions in the region, each involving forage and timber cover, in which the influence problems will require more or less individual study. They include the areas having (1) a heavy fine soil derived chiefly from limestone, clay and shale, (2) a fine sandy soil derived chiefly from sandstone, (3) coarse soils from disintegrated granite, and (4) soils of lava origin. The more important forest types in need of study are western yellow pine of central Idaho, lodgepole pine of Idaho and northern Utah, and the Douglas fir, alpine fir, Engelmann spruce and aspen forests characteristic of Utah. The more important natural range sub-divisions are the mountain summer ranges with more or less individual sets of conditions for each of the north and south portions of the region, the sagebrush-bunchgrass type (spring-fall range) and the typical semi-desert winter range.

The personnel for the carrying on of a comprehensive research program will require groups of men trained in range management and range ecology, silviculture and forest ecology, soil science and hydrology, forest and range biology, plant pathology and entomology and plant breeding.

The problem is so large that there is room in the field for all interested agencies. At least there should be contributions from State institutions, the Federal government, endowed institutions and industrial agencies. Regardless of what agencies come into the region there

should be careful and full coordination of effort in order to expedite the program and avoid waste and useless duplication of effort.

The chief agency already engaged in research in the Intermountain region is the Federal Forest Service. This organization has had range management and range influences under way on a small scale since 1912. Some limited work has been done by the Forest Service in forest management studies. More recently the Utah State Experiment Station and the Nevada State Experiment Station have undertaken some work. The Bureau of Animal Industry for some years has been carrying on important studies of poisonous plants near Salina, Utah. Under the provisions of the McSweeney-McNary Research Act of 1928, a ten-year program for the Federal government has been set up. This act authorizes research in forest management, forest protection, range management, influence studies, economics, utilization, biology, entomology, and pathology in the United States. It is expected that a reasonable portion, in accordance with the values and problems involved, will be devoted to the Intermountain region. Small increases under this Act have already begun to materialize. The Great Basin Experiment Station, which will be absorbed as a substation when the Intermountain Forest and Range Experiment Station is formally established, has been expanded during the last two years from a force of two technical men to one of six men. Funds for at least four additional people should be available for next year. At that, however, appropriations are still considerably behind the authorizations set up by the McSweeney-McNary Act for the nation as a whole and will have to be speeded up if the ten-year program is to be carried out. This more extensive research by the Federal government will hasten the solution of the wild land problems of the region, but even then much still remains to be accomplished by the state institutions or whoever is able to undertake a part in the work.



Father: "Benj, what is your rank in spelling?"

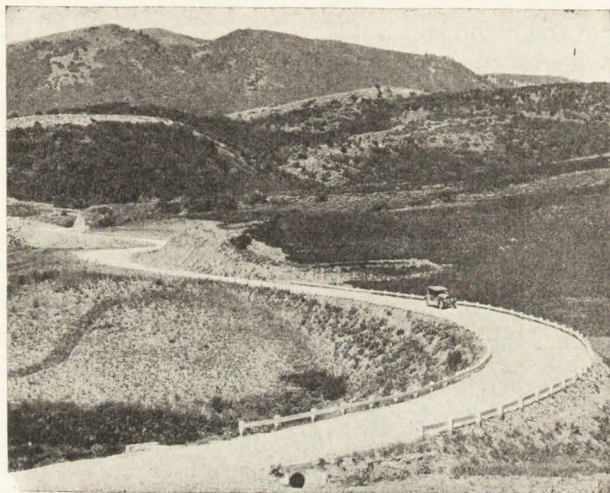
Benj: "Not very good, Dad."

Father: "Why so poor Benj?"

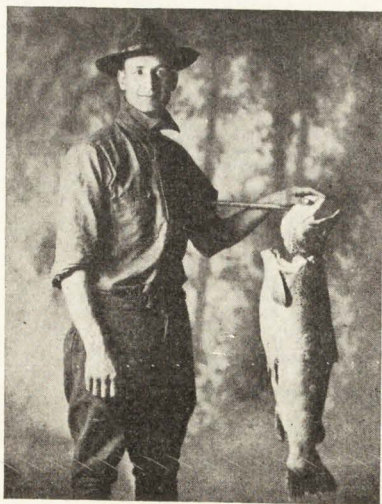
Benj: "Well, I'll tell you, Dad, it is just this, Prof. Becraft does not spell the words the same as I do."

Van: Dick, do you think it unlucky to postpone a wedding?

Dick: Not if you keep on doing it.



Good Roads Make Mountain Traveling a Pleasure.



Protected Watersheds, Make Good
Fishing.

Public Relations In Forestry

BY DANA PARKINSON

U. S. Forest Service, Ogden, Utah.

Public relations, as construed in the Forest Service, is the tie between this organization and human beings outside the organization. Originally, good public relations consisted of being civil in dealing with customers or users. Later, public relations meant also taking advantage of opportunities to explain, the work of the Forest Service. Now, public relations means the *creating* of opportunities to *familiarize* the public with the forestry problem.

You will note that "familiarize" is underlined twice. This is done so you will distinguish between it and *tell*. Familiarizing is a much more carefully planned process than telling. It means so organizing your telling that you not only penetrate indifference and what is commonly known as *sales resistance*, but you also present your story so logically, so simply and so forcefully that it appeals. Appeals to whom? To the public in general? Not necessarily. If the object of your story is to get action, better tell it to someone who acts, who is in a position to do something about it, rather than to tell it to 10,000 people who will agree with you but do nothing. Did the President of the United States try to stabilize business and *restore confidence* after the stock market crash, by telling the public in general—130 million of us—to expand rather than restrict business and construction works. He did not. He called in 9 railroad presidents, 22 leaders in industry and one man representing labor. Hoover would not have gotten anywhere by merely being civil, by waiting for opportunities to meet with business heads. But he did get somewhere by creating an opportunity. Then he not only told the conferees what the Nation needed to restore confidence, but he told them so clearly and convincingly that they acted. Note too, that he told someone who could act in a striking manner.

But why should foresters whose profession has to do with trees be concerned about public relations? A study of activities of rangers showed that for every job dealing with trees, two had to do with human beings. If this holds on a ranger district, how much more does it apply in the Forest Service as a whole?

Forestry in the United States has not spread but has been spread by education and it will continue to be spread in proportion to for-

esters' ability to *familiarize leaders* with the forestry problem. Our forest land nearly equals our improved farm lands in area. Yet, Federal appropriations for forest research are only about one-tenth those for agricultural research. Will the Bureau of the Budget or Congress increase appropriations for forest research unless they are convinced that the need is real? Who will convince them? Can foresters convince them by merely telling them there is a need, or will the convincing entail careful organizing of facts?

Our National Forest problem includes the restoring of 80 million idle acres to productivity. Will foresters ever solve that problem by merely planting trees? Where will they get the money to plant with? By telling some Senators that they need more planting funds, or by familiarizing them with the fact that only 98,000 acres of the 80 million idle acres are planted annually by all agencies; that it will take 110 years to plant the denuded areas on the National Forests alone at the present rate of planting.

Our National Forest program includes the application of forestry to the four-fifths of our forest land which is in private ownership. Will foresters help solve the problem by merely practicing forestry on areas under their jurisdiction, or should they show that 340 million acres of private forest land are subject to destructive exploitation? Only two-thirds of the forest area has organized protection. The forester can not escape the responsibility of getting the other third protected and this means public relations. Man-caused fires are a menace that no forester will minimize. Yet, fighting fires will never solve the problem. The problem is one of education and stupendous one when we realize that visitors on National Forests and National Parks have increased from 3 million in 1917 to 25 million in 1928—an increase of 800 percent.

Forestry students at the Utah Agricultural College know full well that Utah has 33 million acres of land with no administration whatsoever. I doubt that the institution of which the forest school is a part, would ever have considered the establishment of a forest school, had the trustees not felt that its students would take the lead in restoring this vast area of land to full productivity. To secure full use for the state of this now unknown but tremendous and continuing creative energy, necessitates dealing with statesmen, as well as with grass. It may mean dealing with men controlling the destinies of Utah several years before dealing with grass. The Forest Service has 7,000 stockmen as permittees. Does anyone believe for a minute

that a ranger deals mainly with grass or must he be equipped to gain the confidence of his permittees? The most capable ranger is the one who can do this effectively.

Thus it will be seen that foresters and forestry have to do with human beings, as well as with trees, and foresters must be equipped for successful dealing with human beings as well as with forest resources.

To the students who pass the Civil Service examination, the Forest Service offers a heritage of fair dealing, of sympathetic understanding of users needs, of open mindedness, of public respect for Forest Service ideals. Ability to strengthen this heritage will be the first test of the new Forest officers' public relations sense. This ability is largely a matter of personality. In exercising this ability, in gaining the respect of the users, one may seemingly be dealing largely with intangibles, yet with an ordinary amount of intuition and horse sense, the intangibles become tangibles, especially if you can put yourself in the other fellow's place.

The Forest Service does not exist solely to satisfy the needs of silviculture or watershed protection, or the protection of any other resource. It must play fair with the individual. It is one thing to say, this area would be a better watershed if one band of sheep were removed. It is another thing to put yourself in the sheepman's place and consider the justice of having your entire means of a livelihood taken away. This does not mean that the stockmen's interests should govern, but rather that they should be weighed against the other factors before action is taken.

It is one thing to say the stockman is stubborn, old fashioned, of the old school and one who never gets onto the range; that you cannot teach an old dog new tricks. It is another thing to approach him frankly and say you would like to get his idea as to how cattle should be salted and where; to make him feel that his ideas should be accessible to others; to get him on the range; to make him feel that he has helped solve a problem and feel too that even your ideas will hold water. (The chances are pretty good too, that you will learn something mighty well worth while from him.)

Good public relations involves making ones self approachable as well as acquiring the ability to approach others. If the new Forest officers gets properly oriented in relation to his users, the larger public relations problems mentioned in the beginning of this article, will be attainable. Barriers, either geographical or imaginary which prevent

intimate personal contact between individuals, create suspicion. This cannot be restored by regulation or legislation.

Lindy created more friendly emotions and international good will than could have been attained by law, by correspondence or by Congress itself.

Ramsay MacDonald and Hoover, sitting on the same log, did more to allay mistrust than years of long range dealings through diplomats and conventional state papers.

Public relations in the Forest Service has many ramifications. It can not be delegated successfully to a staff of public relations men. It is something that has to permeate the entire organization. The Forest Service was born in adversity and has repeatedly been bitterly attacked. The most bitter and forceful attacks can not always be frustrated by the public relations work of the Forester in Washington, or by the District Forester's office. It is the bulwark of good will and respect built by cumulative public relations work of the Supervisors, rangers, etc., that remains impregnable.

This cumulative public relations work so effective in defense is also powerful in extension or expansion of the forestry movement. Any forester preparing to enter the Forest Service, may safely consider that no matter how well versed he may be in the technique of growing trees, he will be decidedly handicapped if he is not also versed in the public relations phase of his profession.

THE LONE TRAIL

By ODELL JULANDER

Dusk—each shadow growing darker,
Steals across from east to west;
Stays the forest rangers wandering;
Hour of recompense and rest.

Hoot owls calling breaks the stillness.
Female answering her male;
How the coyotes far off howling
Typifies the lonesome trail.

Memory sits with soft hands folded
There within the campfire veil;
Calling—softly calling backward,
Over old off' ridden trails.

The Forestry and Range Department

By T. G. Taylor, Professor of Forestry

The idea of a forestry department had its inception in 1927 at which time an announcement was made in the catalog that in the fall of that year a complete four year course leading to the degree of bachelor of science in forestry was to be given. This did not mean however that the department was immediately established. The entering class was taken care of by Professor Becraft who at that time was connected with the Botany department and who gave courses to the pioneer class in elementary forestry and elementary range, the remainder of the freshman course being required subjects in other departments.

In the fall of 1927 fourteen students were registered in the department, ten of this number being freshmen and four registering as sophomores and being transfers from other departments.

The year 1928 brought a change in status since the department of forestry and range was organized with Professor L. F. Watts in charge and Becraft as an Associate Professor. Under Professor Watts' leadership the new department thrived and prospered amazingly. More courses were offered and the registration jumped to 43 students of which nineteen were freshmen, fifteen sophomores, and six juniors. In addition, there were two vocational students.

A forestry club was organized whose function was campus improvement through the planting of trees upon the college grounds and a start was made in this direction by acquiring trees and planting them as a grove to be dedicated to the U. S. A. C. students who lost their lives in the world war. A considerable number of meetings were held at which members of the District office of the Forest Service at Ogden talked on various phases of forestry work. A banquet and dance were also given by the members of the club. Through these activities a strong club with a definite and worthy object was organized and developed.

Another important development at this time was the cooperation of the state of Utah with the government under Sections 4 and 5 of the Clarke-McNary Act. Through this cooperation a forest nursery was to be started to distribute trees for wood lot, wind break and shelter belt purposes to the farmers of the state and to provide for an extension forester whose function was to encourage the plant-

ing of forest trees for the above objects upon the farms of the state. The government and the state are at present cooperating to the extent of \$5,200.00 under the provision of this agreement.

Thru Professor Watts' activity in this direction then another member was added to the faculty and Professor Genaux came to Logan as half time extension forester and half time teaching work. The extension forester's work is a big item in the establishment of sympathetic relations between the people of the state and the U. S. A. C. on the basis of forestry work.

The year 1928-29 marked a big step forward in the work of the department as may be seen from the past discussion. In the fall of 1929 Professor Watts left Logan to resume his work with the Forest Service and the writer took his place as the head of the department.

We are now looking forward to the development of the forest nursery. Fortunately an area of ground on the campus has been given to the department for the development of this nursery and as the money is available we expect to carry on a great deal of work this spring. It is intended to construct a small packing shed and to install an over head spray system. Seed has been purchased and will be planted this spring so that after a few year's time we will be raising our own nursery stock for distribution to the people of the state. Thru cooperation with the State Forester of Colorado the farmers of Utah shall be able to obtain forest trees for planting this coming spring as called for under the provisions of the Clarke-McNary Act. Since the nursery area is close to the college it will mean that students of the department will be given preference for work in the nursery. This should go far toward helping deserving students who need work to continue on with their studies in the face of financial difficulties.

It is conceded that the department at present does not have as much field work as is necessary to the proper understanding of some of the forestry subjects discussed in the classroom. To overcome this difficulty it will be necessary for the department to acquire a tract of forest land where field instructions may be given. The Forest Service has expressed a willingness to give us a special use permit for an area of land to be used for this purpose. It is expected that the department forest will be acquired this coming summer and that shortly afterward we will be able to give proper field instruction.

The curricula have been changed somewhat altho they have not as yet been definitely lined out. Under the revised schedule of courses

over 100 credit hours will be given in forestry and range subjects. A student majoring in either forestry or range needs no minor work to complete his course as either of these majors in conjunction with the required courses in other departments will keep him fully occupied.

The policy of the department will be to develop the range work as fast as possible. Utah is primarily a grazing state and the location of the department in practically the center of the great western grazing ranges gives a good opportunity to work in this field. Under the able leadership of Professor Becraft this work should expand and prosper.

This does not mean that forestry will be relegated to the background in favor of range work. Development of the work in forestry will be speeded up as fast as the funds and the requirements of the region permit.

Due to the location of the department in close proximity to the national forests we have been able to obtain temporary summer employment for students qualified for this work. This is a factor of financial importance for practically all of our students and is of distinct advantage to new men because under instruction from the members of the Forest Service the students are able to obtain a first hand information of the work of this institution and see for themselves the nature of the activities.

The forestry department expresses itself as extremely grateful to the Forest Service, the administration of the college and to the departments who have so generously aided us in our work.

—O—



The Production of Wool and Mutton is Increased by Proper Range Management.

UTAH JUNIPER

VOL. 1

1930

The Staff

Wilford L. Hansen.....	Editor
Courtland P. Starr.....	Associate Editor
Howard Farnsworth.....	Associate Editor
Wallace Johnson.....	Associate Editor
Edward Cliff.....	Business Manager
Merriner Swenson.....	Assistant Business Manager

TO THE READER:

The editor and his staff sincerely hope that the contents of this publication are found to be interesting and educational. The material for this edition was selected in a hope that the great possibilities of Forestry in the intermountain region might be brought to the attention of the people of this locality. We also hope that from this humble beginning this publication will grow and develop as has the old Juniper in Logan Canyon, from which it gets its name.

TO THE CONTRIBUTORS:

The Staff also wishes to extend its sincere appreciation to those who contributed material to this publication and hope that they will be willing contributors to future publications.

TO THE UTAH JUNIPER

By Charles M. Genaux

I would pay tribute to a tree;
'Tis not a well-groomed grafted thing
With weeping boughs and lacey leaves,
Of which the poets raptly sing.

It stands alone upon a ledge
With old majestic head held high,
Erect, though torn by many storms,
A pillar staunch of Wasatch skies.

For nearly thirty hundred years
This veteran has proudly stood,
A challenge to the tempests' charge;
A mighty monarch of the woods.

Embattled by fierce wintry gales
And lashed by storms of rain and snow
Its eyes have seen the white man come,
The red man lose the fight and go.

So now, Oh noble patriarch!
Long-suff'ring, humble, patient tree,
Thou gnarled old Utah Juniper,
My heart would pay tribute to thee.



"The Utah Foresters"

By ODELL JULANDER

The Utah Foresters' Club was organized during the fall of 1928, the first year of the department of Forestry and Range at the U. S. A. C. Under the leadership of President Wilford "Slim" Hansen and Secretary and Treasury Adelbert Fausett, the club made notable progress.

The major events of the club in 1928 and '29 were the Foresters' First Annual Banquet and the Foresters' Ball. This banquet was a good social mixer for forestry students and forest officers. Paul Bunyon with his blue ox, the smell of gunpowder and pine boughs, and western costumes were enough to satisfy the spirits of the wildest of foresters at the Foresters' Ball.

A very worthwhile undertaking was started by the Utah Foresters last year. On "A" Day the club planted a memorial grove on the campus a tree was planted in memory of each Aggie hero who lost his life in the World's war. This spring the grove will be presented to the college and dedicated to our dead Aggie soldiers. The Foresters will continue to maintain and enlarge upon the grove. This planting is only the beginning of the activities of the Foresters in beautifying the campus. It will be one of the purposes of the club to continue to add to the beauty and splendor of the campus by making other plantings where they are needed.

I wish to express the appreciation of the Utah Foresters to Lyle F. Watts, former head of the Department of Forestry and Range. The club feels a warm friendship toward Mr. Watts, who, during the first year of the department and club, took a deep and sincere personal interest in the organization and every member of it. Mr. Watts is to be highly complimented upon his success in starting the Department of Forestry and Range here last year.

About twenty-two new enthusiastic forestry students and the Cache Forest officers of Logan have drawn around Paul Bunyons camp fire with the Utah Foresters this year. Professor T. G. Taylor, new head of the department, and Charles Geneaux have taken their place on the camp log beside R. J. Becraft.

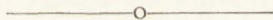
The Foresters hold at least one night meeting a month and as many more as necessary. At these meetings, entertainment and refreshments are furnished by the entertainment committee and a talk, usually along some line of forestry, is given by some forestry official.

The club appreciates the excellent cooperation of District Forest Office and the Cache Forest Office in helping to make these meetings a success.

The social events for this year are: the Foresters' Banquet the fall quarter, the Foresters' Ball the winter quarter and, probably, a Foresters' Campfire the spring quarter. The club also cooperates with the Ag Club in putting on their Harvest Festival and their agricultural show and rodeo. One of the biggest undertakings of the club is the publication of the Utah Juniper, which is to be an annual publication.

Among other accomplishments, the club, through its entertainments and meetings, affects the acquaintance and closer fellowship of forestry students, forest officers and others interested in forestry.

"Esprit de corps" is exhibited by the Utah Foresters in all of their undertakings.



TO A MOUNTAIN BROOK

By WALLACE JOHNSON

Is there anything more lovely
Than a sparkling mountain brook
Lined with happy mountain flowers
And those quiet little nooks?

The brooklets merry tinkeling
The catbirds dreamy song.
Are all united happily
For nature's never wrong.

I know that at the present time
The brook, the trout, and all
Are waiting for me patiently
Until I heed their call.

Oh many, many days have passed
Since summer's golden hours
Were spent along that merry brook
That ripples through the flowers.

Some day their beaconing will reach
Through crowded city streets
And then apacking I will go
My forest friends to greet.

Lyle F. Watts Speak to the Utah Foresters

By Gordon Van Buren.

The Foresters Club at the Utah State Agricultural College is indeed grateful to Mr. Watts for the interesting talk he delivered to the Club on November 25, 1929. The message he left with us pertaining to the real purpose of our forestry club here on the College Campus will long be remembered by all the Foresters present.

He stated that the real purpose of our club is to bring more closely together the Foresters and help to improve the College by such an organization. It should help to create a more serious purpose among the Foresters along an educational line.

One main thing we might get out of our course in forestry to make it worth while is business ethics. It makes little difference whether or not students are good technical workers if they do not have professional honesty. The professional world to-day has no room for a dishonest man. Mr. Watts stated that a student is most susceptible to the forming of dishonest habits during his Freshman year. The habits formed at this time are oftentimes carried with us throughout our college career and on through our lives.

The different branches of forestry that exist at the present time and the new branches that are continually being formed each year are calling for technically trained men. It is therefore important that we obtain the most good we can out of our college education for we are the ones that are going to fill these positions in the future.

Most of us go out on temporary jobs during the summer vacation. We are closely watched on these jobs to see just what kind of men we are and if we are the type desired in the Forest Service. We really have two great responsibilities placed upon us: first, that of proving ourselves men who can be depended upon to do our work the best we can and second, the building up of a good strong reputation for our forestry school.

When we graduate from this college we are just beginning in this life. We must avail ourselves of the information given us by our professors and put it into practice. We must do every part of our work in earnest, no matter what the job may be and not stop to think about the "white collar" jobs. The practical end is the important part and is necessary for our success in any branch of forestry work.

Logging Engineering

(U. S. Swartz's address to the Utah Foresters. Dec. 3, 1929)

By M. R. STOCK

Success in all trades and professions depends upon the foundation that is laid in the class room. One who goes to school just to pass and get a position in forestry and consequently does not get the proper foundation, has about as much chance of succeeding, as a High School graduate trying to teach higher mathematics or advanced english.

Logging engineering was started in the School of Forestry of Washington about twenty years ago. As late as 1912, however, in the Forest Service it was a name only. It has come into prominence, just within the last fifteen years.

A few years ago, in making a stumpage appraisal, the engineers would estimate the amount of timber, and figure from this the expected gross returns. Then they would estimate the cost of each operation, such as felling, bucking, yarding, transporting, sawing, trimming and edging, sorting, planing, seasoning, etc., until the lumber was shipped. The gross return minus the sum of the expected profit and the total logging and milling costs gave the stumpage value. If this did not show the desired balance the costs would be altered to suit their wishes. Because of the increased value of stumpage all companies now appraise the costs of all operations and buy the timber on that basis.

Every spring the Forest Service makes a study of the costs of 32 mills (the total cut is about 1,000,000 bd. ft.). Each mill keeps an accurate account of all operations. The Forest Service figures the average costs and publishes them. From these figures each company is able to compare its costs with the average.

Accuracy in the appraisal is very necessary, for upon it the kinds of transportation and other improvements are based. If the error is great, the company loses. For example: If the estimate shows 100,000 bd. ft. and there is only 50,000, the operator loses by putting in excessive improvements, while if there is 200,000 bd. ft., he loses by not having sufficient or suitable equipment to remove the timber in the most economical way. The estimate has to be approximately correct or one can not make money on the initial investment.

This is a day of higher education. Without it, to obtain a high position is almost impossible. Because of the foundations they lay

in their class work, forestry students are in demand. It is self evident, that they will be in demand in the future. With few exceptions, students with the best education obtain the best jobs. The man who is the exception says he works ten times as hard as the person with the education, to attain the same heights. Therefore get all you can from school, and there will be no limit to your possibilities. Become acquainted with administration, the big thing in all lines of work. Work under the master, to get experience. This is much easier than getting the knowledge by good hard knocks.

Utah Foresters' Annual Banquet

By F. W. RICH

The Utah Foresters' annual stag banquet was held at the Hotel Eccles, mezzanine floor, on the evening of November 16, 1929. Those in attendance were the Forestry Club members, the majority of the Cache Forest personnel, representatives of the Caribou and Minidoka Forests and a good representation of the District Office of D-4 Forest Service.

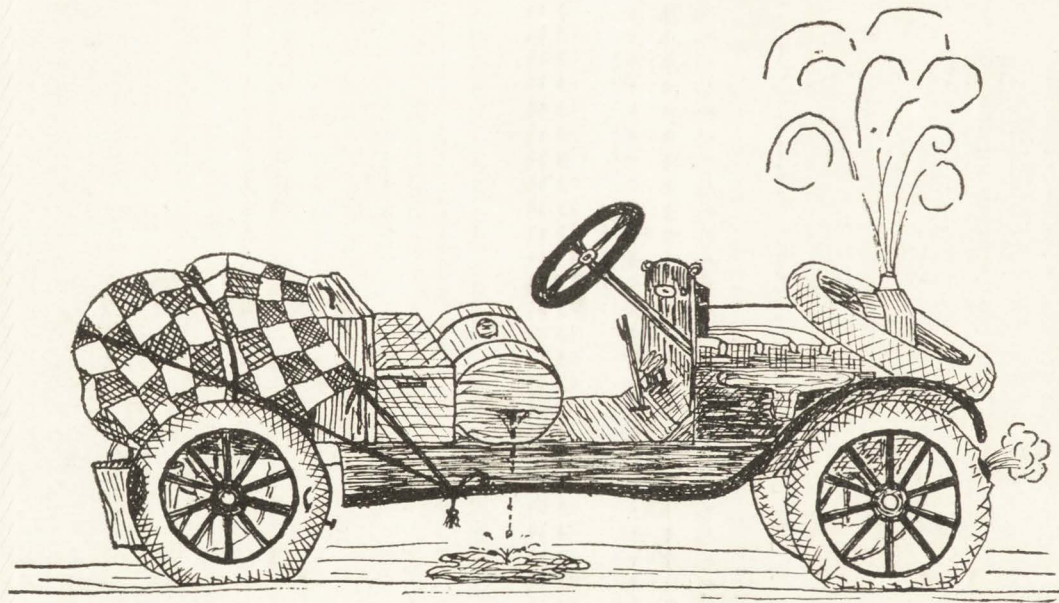
About 6:30 the men started coming and there was a general "get-acquainted" time before the dinner was served.

The tables were arranged attractively in a large "F" decorated with flowers. Place cards were provided with some very essential directions as to the art of eating with the tools provided for the purpose. With Charlie Genaux as toastmaster and elk meat as the main dish, it was a very enjoyable dinner, speeches and music were furnished by those inclined. Representatives of each class gave talks.

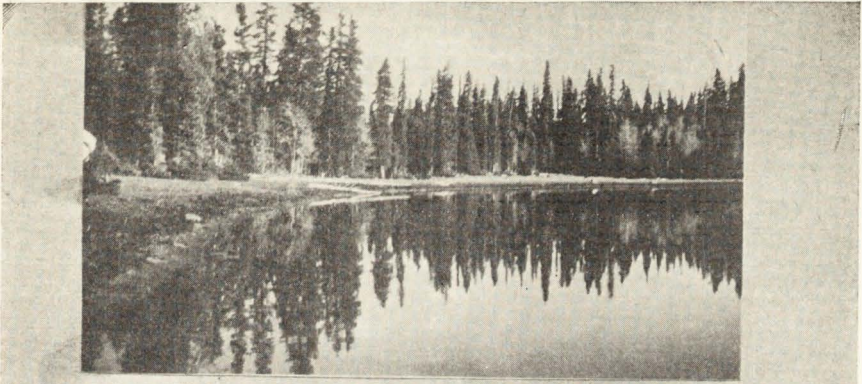
Professor Taylor introduced the main speaker of the evening, "Bish" Gery, of the Forest Service, who gave a very interesting and encouraging talk to the Foresters on the opportunities open for young men majoring in Forestry, stressing the fact that Forestry is broadening its scope so that there is really no limit to what a trained Forester may do or become if he will work for it and take advantage of his opportunities.

After the dinner everyone adjourned to the reception room where numerous stunts and games were played until about 10:00.

It was unanimously and enthusiastically pronounced the most successful banquet ever held by the club.



Foresters taxis always gets there, but occasionally they are pushed most of the way, but that doesn't matter because we will have one more story to tell around the camp fire.



THE RANGERS DREAM

By BOYD BALLE

There's a story I'm told though strange it may seem
How a forest ranger had a wondrous dream
He was dreaming of women as he lay in his bed
When his dream switched about and he dreamed he was dead.
His body in a casket and being in state
There were thousands around, but none mourned his fate
He would not like it, so to heaven went he straight
Arrived at the portals knocked loud at the gate.
Hey, St. Peter, get busy quick, open the door
See who's here, make every thing roar
Beat the drums, play the horns, have a swell banquet made
Tell God I'm here and we'll have a parade
Then St. Peter looked out and in a voice loud and clear
Said, "Try down below, sir, you can't get in here"
"Tut tut", said the ranger, "Your very uncivil
And probably don't know I'm a friend of the devil
And I'm going with pleasure". And he started to go.
Whistling like blazes to make a grand show
When he arrived at hell's door he was filled with dismay
For while waiting outside he heard Satan say,
"Listen, boys, take notice, I'll give you all warning.
I'm expecting a ranger down here in the morning
But don't let him in for he'll muss us about
Just give him the ha ha and kick him right out."
"Oh, Satan, dear friend, this ranger then cried
Excuse me for listening while waiting outside
But where else can I go?"
"Tut tut", said the devil, "I'll be damned if I know"
"Oh please let me in for I'm feeling the cold
If it's money you want, I've plenty of gold
Let me in the corner, no matter how hot"
"Tut, tut," said the devil, "Most certainly not.
You can't gain admittance by your offer of pelf
Here's matches and sulfur make hell for yourself."
From this troublesome sleep the ranger woke in a sweat and said
"That's a dream I'll never forget
That I won't go to heaven I know very well
But I never once thought I'd get kicked out of Hell."

Eight Miles or Bust

BY OWEN DE SPAIN

It seemed that Skaggs store was doing a Saturday afternoon business but it could'n't be for it was only Friday. The reason for the rush was that a group of Foresters were leaving Logan that afternoon for a ninety mile trip to the Eight Mile Ranger Station, near Soda Springs, Idaho. The amount of supplies purchased indicated a weeks stay, but this was false for we were to return the following Sunday.

The one-ton truck belonging to the local forest office was loaded to its maximum capacity with grub, beds, coats and other necessities. With the arrival of Charlie Genaux with Professor Taylor's car we were ready to start. Three of us found room in the truck and the other four in the touring car.

'Slim' and Charlie seemed to be experienced men behind the wheel for nothing exciting happened during the trip. Jim persisted in sleeping all the way. He claims that car riding always made him sleepy, but I think the cause was the night before. Ed states that riding in the front seat of the Buick was all that kept him from freezing. Val and 'Twink', who were riding the rear seat, claim that no matter in which direction they traveled they always had that cold, northern breeze right in their faces.

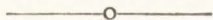
Arriving at the ranger station shortly after dark we soon moved in and had the station in full possession when Ranger and Mrs. Libby arrived. The appearance of a woman on the scene seemed to cause an extreme change to come over the activities of the invaders of the cabin. Under the direct supervision of 'Slim' supper was soon ready and when piled upon the table resembled a Thanksgiving dinner. The meal was greatly enjoyed; even Ed was heard to say that he had had enough. The remainder of the evening was spent in playing cards and story telling. No prizes were offered so the winners are unknown. Along toward midnight we retired to our rooms up stairs and indulged in singing and the usual line of story telling when fellows get together until every one had fallen asleep.

After about two hours of unrestful slumber in our soft beds on the floor, 'Slim' and I arose and quietly crept down the stairs and started to prepare breakfast. 'Twink' followed soon after with his 'loggers' in his arms so as not to disturb the others from their peaceful slumber. (Believe it or not.)

We spent an interesting day looking over the sawmill operated by Mr. Alma Hubbard. The entire cutting area was explored and found to be covered with snow reminding us that winter had started here in the mountains. In places it was about four feet deep for I remember that Val broke through its frozen crust and only the top of his head was visible until someone pulled him out. We were served a much appreciated dinner by Mr. Hubbard and the other boys at the mill. Toward evening we returned to the station tired but a very happy group of fellows.

After much discussion, mostly opposition, we decided to return to Logan that night, instead of waiting until the next day, as we had previously planned. We came as far as Preston without mishap than something possessed Charlie, perhaps it was the old saying, 'the longest way around is the sweetest way home', for he led us around by Garland. This route is about twenty miles farther than the usual way of traveling between there and Logan.

Those making the trip are glad they went and those that didn't go are sorry they missed the fun. We are all looking forward to the coming of spring when other trips of this nature can be taken.



Dispite the fact that this is the first year that students will graduate from the department, we are proud of the work being done by two of our former students.

ARNOLD R. STANDING graduated from U. S. A. C. in the spring of 1929. He is now actively engaged in the headquarters office of the Intermountain District (D-4) of the Forest Service at Ogden, Utah as Range Examiner in charge of Grazing Surveys and Administrative Range Investigations. "Barney", as he is known by all his friends, is an alumni member of the "Utah Foresters" and was very active while at School. We don't have to ask "Barney" if he likes his job, it just sticks out all over him.

IVAN CHRISTIANSEN also is a graduate of the U. S. A. C. He took his Bachelor of Science Degree in the spring of 1929. He is now actively imployed as District Ranger on the La Sal Forest of District 4 at Monticello, Utah. He reports that he is doing very well and likes the work very much. As he would say, "It is a great job and a very pleasant life." Mr. Christiansen was also a member of the "Forestry Club" and took a very active part in its creation.

THE UTAH JUNIPER

SHEPHERDER'S LIFE.

BOYD BALLE

Off the desert and out of the cold,
Our backs are sheared and the wools all sold;
Onto the trail to the lambin' ground,
To heal our feet and to lay around.

Then we're dipped to the eye in cuticure mange,
And out of the pasture and onto the range,
A little bunch grass found here and there,
And then we start—how that man can swear!

Now off to the brook and into' the seep,
It's the herder's day for watering sheep.
We're in the corral to separate,
"Watch out there, do shut the gate!"

Can that herder swear? Damn I'll say.
He sleeps tonight on a bed without hay,
The coyotes howl and the dogs they bay
And he gets no sleep, cause the sheep won't lay.

We're on the trail to the summer feed,
The sheep's alright, let the old ewes lead,
So let's unpack it's just what we need—
And there's plenty of grass for the horse's feed.

There comes some one; It's Uncle Sam,
Why the hell can't, it be a decent man?
Look at those legs and oh, what feet!
Tip that pan and we'll fry sheep meat.

"It's a great old life," the ranger said,
"It's just like you make it; so is bread."
Get off your horse and we'll have some dinner,
When it comes to cookin, I'm a first prize winner.

We're on the range where the grass is good,
The camp is pitched and we're gathering wood.
That Ranger would bluff if he thought he could,
Yes, edge him on, and I know he would.

Say what you may but he can't be beat,
Though he has long legs and awful feet.
But listen to me, as a Ranger he's good;
And he'd pull us through if any one could.

Yes, tell me now, just man to man,
Do you always wash your frying pan?
And get your dough from that glass jar?
And grease your boots with wagon tar?

Now the grass is frozen and the clover's gone,
So we're starting back from Uncle's lawn,
The oaks turned red and the aspen tan;
Can that herder swear? I'll say he can.

Our horse feed gone and our grub stake low
We're out no markers—no—hell no,
But the sheep are fat and rarin' to go,
So pack your tent fore it starts to snow.

Now back to the desert and into the cold!
Our lambs are weaned and the old ones sold.
Oh, our lives are just one round of pleasure
And a good herder's worth a hidden treasure.



They Don't Choose to Walk

Ride and the girls ride with you,
Walk and you walk alone—
For the flappers these days are set in their ways
And want a man with a car of his own.

"Mother", asked little Jack, "is it correct to say that you water a horse when he is thirsty?"

"Yes, dear," replied his mother.

"Well then", said Jack, picking up a saucer, "I'm going to milk the cat."

Professor Becraft to Dendrology class—How many needles are there on that pine?

Doug. Wadsworth—Well now, it would take quite a while to count all those, wouldn't it?

Sargeant Callahan—"When I was a little boy I had a set of wooden soldiers. One day I lost those soldiers and I cried very much, but my mother said, 'never mind, sonny! Some day you will get your wooden soldiers back.' And believe me, you bunch of woodenheaded blockheads, that day has come."

A Foresters Confab

On the night of April 24 the boys were gathered in front of the Animal Husbandry building. Group discussion was prevalent and enthusiasm ran high. The meeting had been called for the purpose of elections and a talk from Supervisor Arentsen of the Cache Forest on "Summer Work." Bear stories and refreshments constituted the remainder of the program.

The business of elections was taken up first in the course of proceedings. There was much enthusiasm and spirit displayed in nominations and elections and no candidate was without competition. The results of the elections were as follows:

Courtland "Twink" Starr succeeds President Odell Julander, Edward "Ed" Cliff replaces Vice President Douglas Wadsworth, Glen "Spud" Baker will replace Secretary Courtland Starr, Owen "Spike" Despain succeeds Editor Wilford Hansen, Gordon "Van" VanBuren replaces Business Manager Edward Cliff, Frank Fannesbeck was chosen to act as Club Reporter. These new officers are to take office at the beginning of the next school year. It looks as if we could expect great things from the "Utah Foresters" club next year.

The time was turned over to the main speaker of the evening, Supervisor Arentsen from the Cache Forest. He gave a very interesting and instructive talk on "What is expected of one who is contemplating work with the U. S. Forest Service during the Summer months." Some of the high points of his talk were as follows:

"Know what your job is, then do it."

"Make a practical application of your technical school training."

"Master your job; know it from start to finish."

"The great majority of failures are due to lack of thoroughness in work."

"A man never loses his job from doing it too well."

"It is harder to raise your working standards than to lower them."

"Do a job so that you can say, 'This is my work and I am willing to be judged by it.'"

The remainder of the time was given over to bear stories and individual talks from members of the group. Ira Clark gave a short talk to the Freshman stressing the point that "Work with the Forest Service is a reality and not something 'Romantic'."

Refreshments were served in the form of punch and buns. The punch led to the startling revelation that "Bears run in great flocks on the Idaho."

A New Smoke Chaser

By J. DELOY HANSEN

He had been appointed by the ranger to act as a lookout and smoke-chaser from one of the lookout peaks in a fire forest in northern Idaho. It was a new experience for him, for it was the first time he had ever been in a really forested area.

For the first while on the peak everything was new and each day he discovered new tricks in the trade. During this time his interest was directed toward those little sacks of "smoke-chaser rations," three of which he had tucked away in his emergency pack. What did they have in? Was it as good or better than the hash he was stewing up for himself each day? These questions troubled his mind, but back of this he remembered his rangers instructions, "those rations were to be used only in case of fire." Sometimes as he looked at them he almost wished for a fire so he could go out and fight it and solve the mystery of their contents.

The fact that he longed for a fire to see what was in these ration sacks was conclusive that he was a green horn, for had he only known the danger of a fire there at that time of the year, and the effort required to extinguish it he would gladly have left the mystery unsolved.

Such luck was not to be his for already a lookout on a nearby peak had located a small smoke on the ridge just below the green-horn's camp. Soon the wires to him would be buzzing the information and a warning. To him the information would be welcome and the warning only a comment: he who was so ready to get off his peak and show his stuff and live on whatever was in the sacks.

In much less than the allotted time he had shouldered his pack, taken up his old double-bitted axe and headed down the ridge in the general direction of the smoke. Climbing over logs, crashing thru the underbrush, and "cooning" a few trees to get the bearing was enough to try the patience of a clergyman, but his only thought was of the fire. So he plodded on, always unmindful of his tremendous waste of energy.

After looking on the ground, all over the hillside, until he was ready to curse the other lookout and swear there was no fire he sat down. Lucky he did, for as he looked up to see where the sun was he saw some smoke drifting up out of a large yellow pine snag at least four logs from the ground.

"Well I'll be——", was all he said. He laid his pack on the ground and started to hack away on the tree's five foot butt. During the first hour he got the tree girdled—a fair job for an amateur, but what would a man of the woods say? By then the sun had set and he was being reminded of the three sacks in his pack.

His first attempt at making out a meal was almost a failure, nothing he ate tasted good. So in disgust, he stuffed his unconsumed rations into the sack, took up his axe and went to chopping on the tree. For three hours he chopped, then being so hungry and tired he felt like telling the whole forest to burn up, he made a second attempt at the rations. This was more successful for he was able to almost relish the bully-beef and hard-tack. Then after taking a rest he worked some more.

With these alternate periods of rest and work it wasn't long until the snag looked as if several beavers had been hard at work, but he knew that by keeping at it he would soon have the fire down where he could put it out, so he chopped some more. Eventually it began to rock and then, it crashed, throwing sparks in all directions. Immediately he went to work with his shovel and soon had the sparks buried. The fire in the tree was soon taken care of by shoveling dirt into the end of the telescoped log. In the meantime he chopped the hollowed part off, threw some dirt on it and went over to his pack for more rations and rest. Later he returned to the scene of his struggle, removed the dirt from the burned log to allow it to cool. Then to avoid more chopping he proceeded to crawl through the log to make sure there was no fire left in it. There wasn't but there was a tight place where it took some squeezing to get through, consequently when he came out of the charred ruins he resembled a dilapidated colored man.

His work done he headed back to his peak. Up a ridge which had got longer and steeper since his descent, but the thoughts of a bath in a bucket of water and a pot of beans got him back to camp with one more experience to tell his grandchildren.

—o—

Professor Becraft on Mount Logan hike—Let's eat. I don't like to go down hill on an empty stomach.

Doug.—I never did like to go down hill on my stomach at all.

Jim Gustin to Prof. Genaux: "Ja know this nursery now when you see it."

The End of Fire Season

By Odell Julander

"The party is going over big, Jim", I remarked as we watched the escapading Forest Service men swinging their heavy boots in time to the music of a guitar and violin. We had taken a seat in one corner of the Peet King Ranger Station to rest and make room for the other men who were waiting their turn to dance.

"How could it be anything other than a success with the boys feeling as they do?" Think of it! The electric storms are over and there'll be no more worrying about fires this year! Who wouldn't feel like celebrating?"

Of all the men in that felicitous gathering, Jim Masterson had reasons for being happiest. Upon him rested the responsibility of fire control on that forest and this year had been an exceptionally dangerous fire season.

The party broke up at 4:30 A. M. Tired and happy the rangers, forest office men and trail foremen went back to their respective headquarters. Good thing it was Sunday morning—we could sleep part of the day.

"Cappy" Rice and I had been in bed about an hour when I was aroused by "Cappy" who was shaking me vigorously.

"Come to life here. Jim wants you on the phone."

"The Devil with Jim, I'm sleeping."

"Hey the whole forest is on fire!"

"Let 'er burn".

"Cappy" finally persuaded me to see that it was no joke so I went to the phone.

"Someone started two fires up on Tahoe Mountain last night. Woodrat Lookout reports that they are going strong."

"The Devil!"

"Yes. Tell the packer to bring one hundred fire rations and you get all the men you can and meet me there. Section 26, township 32 north, range 8 east. Get it? Good—see you there."

Three hours later we met on Tahoe Mountain with thirty men. While the men were eating lunch, Jim and I circled the fires, making plans for attack and searching for some sign of the trespasser who had set the fires. The only clue we found was a few foot prints. The left shoe had no heel and the right heel contained three hob nails. After recording the measurements of the foot prints, we care-

fully covered several of them so that they would not be destroyed.

The men were rested when we got back and were ready for battle. Jim was no longer just Jim, but Masterson, Fire Chief of the Forest Service. He had the situation well in hand and soon had the crew organized and working on the two fires. Leaving me with ten men on the smaller fire, he took the other twenty men on the larger fire, which was only a quarter of a mile up the ridge.

Our crew was too small to corral the fire. All we could do was trench the more dangerous places and fight "hot spots" to keep the fire from crowning. We held our ground fairly well until about 1:00 o'clock. The sun was hot by this time and the humidity of the air had lowered. The fire began making short runs and the brush and down timber burst into flames almost instantaneously.

With two men patrolling the lower side of the fire and nine of us on the upper side, we fought—fought until our clothes were soaked with perspiration and our blackened faces and hands were blistered with the heat. We were facing fire, our worst enemy, and we were there to conquer.

A rangers life romantic? I laughed sarcastically. If those who held that idea could see us now. And yet—there was something about it—something wonderful. Those boys, some of them not over eighteen—others grey headed, fighting with every ounce of their energy to save the forest. I was proud of every blackened face on that fire line—proud to be with such men, and wished that the whole world might see them.

Suddenly a roar arose from the larger fire. Black smoke was rolling up in great clouds from the head of the fire and we knew that it had crowned. The immense heat from this fire created a strong wind. As tho in answer to the summons of the roar, our fire leaped into the tree tops to join the raging demon up the ridge.

"To the alder patch on the south," I shouted, and the word was passed on.

We dashed around the side hill into a large alder patch at the head of a draw. Just as we reached the alders, the south wing of the fire swept ferociously by toward the larger fire. Knowing that the fire could not cross the alder patch, we climbed to a bare ridge on the other side of the draw which we had previously selected for a camp site. From there we watched the two fires clash together and become one.

Jim and the other men soon joined us. There was nothing to
(Continued on Page 48.)

Where The Boys Will be this Summer

Vocational

Ferrel Hansen, Monroe, Utah. Will do trail work on the Bitteroot National Forest.

Anton G. Winkel, Richfield, Utah. Will be an assistant ranger on the Cache National Forest.

Freshmen.

✓ Boyd Balle, Glenwood, Utah. Will work at home.

John E. Burt, Ogden, Utah. Will do fire work on the Salmon National Forest.

Jack Binns, American Fork, Utah. Is working at home.

Brooks Collins, Monroe, Utah. Fire work on the Idaho National Forest.

Richard Evans, Layton, Utah. Is going to do fire work on the Idaho National Forest.

Howard Farnsworth, Beaver, Utah. Fire work on the Idaho National Forest.

✓ Frank Fonnesbeck, Logan, Utah. Engineering work on the Weiser National Forest.

J. L. Gustin, Logan, Utah. Fire work on the Salmon National Forest.

Dale Gustin, Logan, Utah. Trail work on the Gunnison National Forest.

Harold Johnson, Ogden, Utah. Fire work on the Salmon National Forest.

✓ W. M. Johnson, Ogden, Utah. Fire work on the Idaho National Forest.

✓ C. C. Michaels, Ogden, Utah. Lookout on the Blackfeet National Forest.

Theras Pass, Huntsville, Utah. Fire work on the Salmon National Forest.

J. Kent Poulson, Richfield, Utah. Forest Guard on the Lemhi National Forest.

✓ Milton Sill, Logan, Utah. Fire work on the Idaho National Forest.

✓ B. Trimble, Fillmore, Utah. Will work at home.

✓ Gordon Van Buren, Ogden, Utah. Insect control on the Wyoming National Forest.

Sophomores

✓ Walter S. Astle, Logan, Utah. Fire work on the Idaho National Forest.

Glenn L. Baker, Boulder, Utah. Engineering on the Powell National Forest.

✓ Owen DeSpain, Venice, Utah. Tie sale on the Wasatch National Forest.

Allen Hansen, Richfield, Utah. Administrative guard on the Weiser National Forest.

✓ Fred Hodgson, Logan, Utah. Forest guard on the Sawtooth National Forest.

✓ Douglas C. Wadsworth, Logan, Utah. Insect control on the Cache National Forest.

George Young, Wellington, Utah. Forest guard on the Sawtooth National Forest.

Juniors

✓ Valentine I. Bentley, Provo, Utah. Timber survey on the Wyoming National Forest.

✓ Edward Cliff, Heber, Utah. Grazing reconnaissance on the Boise National Forest.

Waldo Frandsen, Price, Utah. Is working at home.

✓ Odell Julander, Monroe, Utah. Forest Ranger on the Cache National Forest.

✓ Courtland P. Starr, Springville, Utah. Administrative Guard on the Idaho National Forest.

✓ Merlin R. Stock, Oakley, Idaho. Fire work on the Beaverhead National Forest.

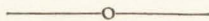
Marriner Swenson, Logan, Utah. Timber survey on the Fish Lake National Forest.

Seniors.

Adelbert Fausett, Price, Utah. Grazing reconnaissance on the Plumas National Forest.

Wilford L. Hansen, Richfield, Utah. Assistant Ranger on the Cache National Forest.

Deloy Hansen, Richfield, Utah. Grazing Reconnaissance on the Powell National Forest.



AND PLENTY'O THAT

"How much home brew can a Stockman really drink?"

"Any given amount."



"What did the Limburger Cheese say to Lindbergh?"

"Oh boy, what we did for the air!"

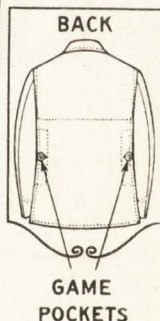
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AN OPPORTUNITY IN FORESTRY

(Continued from Page 6.)

for the careful way in which he laid the foundations for our development. He resigned last year in order to accept appointment as Senior Silviculturist with headquarters at Washington. He is succeeded this year by Professor T. G. Taylor, a graduate of the Yale Forestry School, who comes to the Institution after extensive educational and practical experience which fits him admirably for his work.

The College has been gratified by the record already made by the students in Forestry. It is felt that with the instruction the College provides for them, supplemented by their western experience they will be qualified to serve efficiently both federal and state agencies. It is the aim of the College to maintain its work in Forestry on a level comparable to the finest work being now done in America.

Mother: "Come Dick, and kiss your aunt Martha."

Dick: "Why Ma, I ain't done nuthin."



The Big Round-up

FOUR LOGS—two big ones, a medium one, a small one—lay scattered where they fell some distance apart. Four fair-lead lines shot out in as many directions from a winch on a "Caterpillar" Sixty Tractor. "Come here," barked the "Caterpillar." The four stragglers snapped to formation beneath the arch and the Sixty was off for the landing, trailing its pay load. Dependable and fearless, the "Caterpillar" Tractor has its way in dealing with logs big or little.

Prices—f. o. b. Peoria, Illinois

TEN	-	\$1100	TWENTY	\$1900
FIFTEEN	-	\$1450	THIRTY	\$2375
SIXTY	-	-	-	\$4175
SIXTY LOGGING CRUISER	-	-	-	\$4540

Caterpillar Tractor Co.

PEORIA, ILL. and SAN LEANDRO, CAL., U. S. A.
Track-type Tractors Combines Road Machinery
(There's a "Caterpillar" Dealer Near You)

CATERPILLAR
REG. U. S. PAT. OFF.
T R A C T O R

THE END OF THE FIRE SEASON (continued from page 42)

do now but rest until after the heat of the day. The fire would come to the ground again then, and we could continue our fight. All of the work we had done was lost. The thoughts of defeat and seeing that wonderful old forest go up in smoke was maddening. Jim, being more experienced, took it more calmly.

"We've done well today, boys. A half hour ago we had two fires and now we only have one." Jim smiled, but the other blackened faces remained firmly set.

An hour later we heard our packer, Bob, yodelling far down the ridge. Happy-go-lucky Bob would be yodelling if the whole forest were on fire but never before had it sounded so good. When he came into sight a shout of welcome arose from our black faced brigade.

Eighty men were following the pack string up the hill.

We would relax now. The fresh men would go on the fire line that evening and we would hit it again at daybreak. I remembered then that I had slept only about an hour the night before so I lay down in the shade and fought fire in my sleep from then until morning.

Jim and I went out at day break the next morning in search of more evidence which would lead us to the cause of the fire. We found an old shack and Jim climbed up onto the bark roof to look around. "Huh! Come up and take a look at this."

He pointed to a black spot where a fire had been started. In the burned spot was an empty shell of a thirty-eight special cartridge. Off to the side was a similar shell which the fire had not reached. This was filled with highly inflammable material.

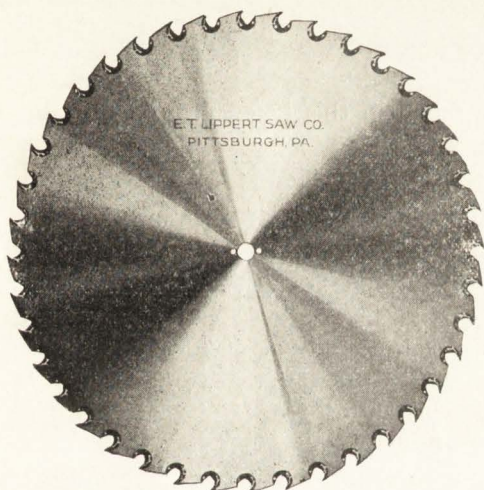
"That tells us how the fire started and"—Jim led me to one corner of the shack—"see that boot print with the heel gone? That's the man who did it. I know a sheep man who grazes this range who is none too friendly with us. These infernal sheep herders have caused us enough trouble. We have lost thousands of acres of timber from fires set by these men who have the erroneous idea that burned over forest makes good sheep range."

"Yes, Jim, they need a little educating."

"See that second ridge? Nothing south of there as far as you can see but burnt timber. What can you see east of this divide? Black stumps from there to Montana." Jim's usually calm eyes snapped fire. "We'll go the limit to get this fellow as soon as we have the fire under control. We must work on this secretly tho, so keep it from the boys."

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Lippert Saws Cut Fast and Smooth

Lippert Saws are made of the best steel obtainable, evenly tempered and accurately balanced; and the workmanship is of the highest quality.

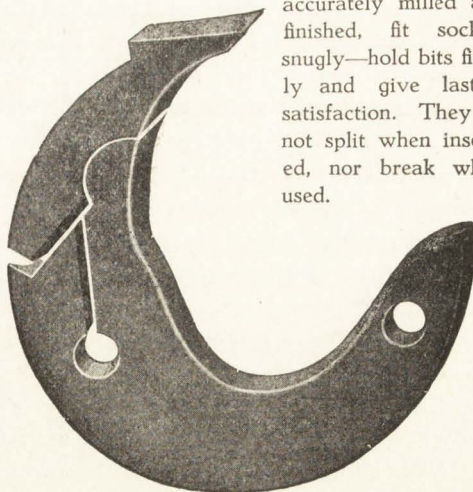
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are drop forged and accurately milled and finished, fit sockets snugly—hold bits firmly and give lasting satisfaction. They do not split when inserted, nor break when used.



E. T. LIPPERT SAW CO.

PITTSBURG, PA.

WHERE PRICE AND QUALITY MEET

For ten days we fought fire. Sometimes trenching directly against the sorching flames, sometimes falling back to a ridge top or natural fire break and back firing. It was hard to retreat, leaving those evergreen trees to be licked up by the devilish flames of the oncoming fire, but it was often necessary to save our lives.

On the tenth day the old homesteaders, who were fighting fire began to prophesy rain.

"See how the water has raised in this here spring? Sure sigr of rain."

The moon changed last night and she's ridin' so she'll hold water now," another remarked.

"They aint a surer sign of rain than when my rheumatism gets to grindin' and she's sure givin' me hell today," joined in an old shriveled-up rancher.

Mischief danced in the eyes of our old bald-headed, false-toothed trail foreman as he seriously remarked, "It's g-g-ga-goin' rain ya' betcha. My t-t-t-teeth have ben achin' so d-d-d-da-damn bad, I had to t-t-take 'em out and p-p-put 'em to soak."

That night a fine steady rain set in, driving the patrolmen in from the fire line. It was sweet recompense, to sit there in the rain and watch the lights of the forest fire gradually fade and die out. Victory was ours and it was a jovial crowd of black-faced fire fighters that gathered around the camp fires that night.

The sight of the fire sweeping through the forest had been maddenning, but looking over the burned forest the next morning had an entirely different effect. It reminded one of a battle field strewn with the dead. Charred remains of burned trees, showing through the dense white fog, appeared as gaunt specters guarding the grave of a once beautiful forest. It stirred up a feeling of revenge. Were not all of those burned trees friends of the forester and homesteader? The punishment of one man was not enough to pay for those thousands of lives which had gone up in smoke.

The main discussion among the boys at breakfast that morning was what should be done with the man who set the fire?

"We should tie the—— ——— to one of these black stumps and build a bonfire around it," ventured one of the ranchers.

"The Hell we should," joined in an old trapper. "That wouldn't be much worse than shootin' him. We'll take the—— ——— and turn him loose naked, with his hands tied behind him, and let the skeeters and no-see-ems finish him."

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Call in and let us explain these and numerous other services we offer to our customers.

Description of Western yellow pine: The needles of Western yellow pine grow in bunches of sometimes three, mostly two, but generally three.

Appel—Miss Crabflake's mind is essentially modern.

Sass—In what way?

Appel—She never seems to have much on it.

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Any woman can run a home efficiently if she has plenty of money, but it takes a genius for housekeeping to do a worthwhile job on a limited amount! The thrifty housewife has to be financier, interior decorator and expert purchasing agent to guide her budget carefully!

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J.C. PENNEY CO. INC.

LOGAN,

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UTAH.

Jim called me off to the side.

"Well, we can go to work on this case now that the fire is safe. This has cost us a good many thousand acres of timber. We must find the cause of it if possible. I'll leave this sheep man, Smith, to you. If you find him guilty, or even believe him guilty, for Hell sake and his sake, keep it from the boys or there'll be a new sheep herder in Hades for breakfast."

Dressed in old clothes and a slouch hat, I went looking for a job herding sheep. I could hear Smith's sheep across the canyon and soon found the camp. After an hour or so a noisy sheep dog announced the arrival of Smith.

"Hello, lad. Where do you hail from?"

"Oh, I'm supposed to be working on that fire up there. Got sort of lonesome to be with the sheep again and decided that I just as well get paid for enjoying myself here as working up there—so long as they don't know about it."

"Well done. I guess you are the fellow Jim Masterson called his crazy sheepherder. Said you was the damndest cuss to keep track of in seven states." Smith roared with laughter at the joke and I joined in.

He seemed to take it for granted that I was opposed to the Forest Service and, being a boastful, loud-mouthed fellow, did not hesitate to express his opinions.

"Huh!—don't take much to pull the wool over the eyes of these forest men. Even us crazy sheep herders c'n do that. 'Course they think they know everything but nevertheless—I'll have a good piece of sheep range where this accidental fire burned."

"Yes, burned over land makes good sheep range—too bad this rain came up" I said encouragingly, as I patted the nervous sheep dog's head to quiet his growling.

"Some day these school teachin' foresters are going to be off duty celebratin' again and—I'll get some more sheep range cleared. They'll be none the wiser—they c'n never prove anything so"

"Here ya growlin' hound, get out and shut up or I'll—h—hello Masterson—lookin' fer your sheepherder?" "Smith's face turned pale as Jim stepped inside of the tent and his proposed smile turned to a sickly grin.

"Yes, I'm looking for a sheepherder and it happens to be you," Jim coolly informed him.

Smith burst out in a storm of protest and profanity when he

realized that Jim had overheard his vaunting remarks. This apparently had little effect upon our calm old fire chief.

"Let's look at those shoes sittin there—and that gun hanging on the tent pole," he ordered.

I held the shoes up. The left heel was gone and the right heel contained three hob nails. The gun was a thirty-eight special caliber and the cartridges in it were the same brand as the blackened shell that Jim took from his pocket.

As Jim started off down the trail with the sheep man, he paused before a Forest Service notice which was dotted with bullet holes.

"Read this over, Smith. It may have a different meaning to you now than it had when you were using it as a target. "Twenty-five thousand dollars and twenty-five years imprisonment. Reckon it means about what it says."

Old Lady: "If you really want work, Farmer Brown wants a right hand man".

Wanderer: "Jus' my luck lidy—I'm left-'anded."

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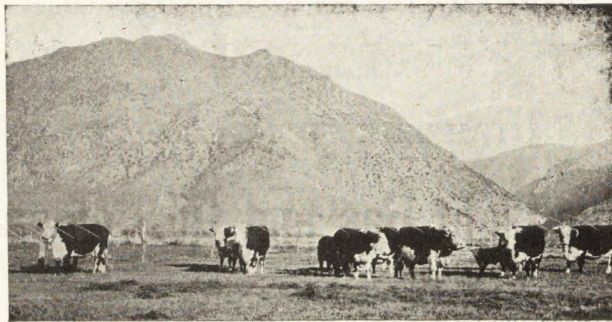
Logan, Utah

Dell—They say the people who are direct opposites make the best marriages.

Slim—I know, that is why I am looking for a girl with a lot of money.

Mr. Watts—I really haven't prepared a speech; I'll just have to talk more or less out of my head.

Doug, after meeting—How many of you believe Lyle was talking out of his head?"



Thousands of Cattle Graze on the National Forests.